Keynote Presentation 1

Focusing on What Matters: Materiality Assessments for Public Reporting and Strategic Planning

Time: 9:10 a.m. - 10:00 a.m.	**Speaker:** *Elsie Rivera Palabrica,* **Eli Lilly & Company**

Abstract: Ms. Elsie Palabrica will review the definition of materiality and its significance to sustainability reporting and strategic planning. Specifically, she will address the Global Reporting Initiative (GRI) standard and discuss the importance of an engagement-centered materiality assessment in complying with current requirements and in ensuring effective and meaningful environmental strategies.

Biography: Ms. Palabrica is the global environmental sustainability lead for Eli Lilly & Company. She leads or supports initiatives in energy, water, waste, green chemistry, and supply chain sustainability. Before taking her Lilly role in January 2016, she was a principal sustainability consultant for ERM, helping companies in a variety of industries to understand and address their sustainability related impacts. Her experience includes issue materiality analysis, stakeholder engagement, strategic planning, policy and standards, management systems, internal and external communications, emerging issues, performance improvement programs and metrics, training, and assurance. She also has a great passion for her work in encouraging strategic community investment and with urban sustainability and greening initiatives. She currently serves as chair for the Keep Indianapolis Beautiful Board of Directors.

Keynote Presentation 2

Environmental Sustainability Means Being Envolved at Cummins

Time: 10:20 a.m. - 11:10 a.m.	**Speaker:** *Brian C. Mormino,* **Cummins, Inc.**

Abstract: Envolve Cummins is the comprehensive way the Company views and prioritizes actions to address its biggest environmental opportunities from the materials the Company buys to the emissions of its products. This presentation will focus on the strategies, goals and actions Cummins has to reduce its carbon footprint, use fewer natural resources, and partner with others to solve problems.

Biography: Mr. Brian Mormino leads the Environmental Strategy & Compliance organization, which establishes and implements the company's global environmental strategy addressing both facility and product regulations, certification and compliance, as well as impacting broad energy and environmental public policies. The organization also focuses on environmental sustainability in an effort to reduce the company's global footprint. Before joining Cummins in 2006 as Director of Government Relations, Brian served as Staff Director for the U.S. Senate Subcommittee on Clean Air, Climate Change and Nuclear Safety. Among other activities, he serves on the U.S. EPA's Clean Air Act Advisory Committee, on the Executive Committee for the Truck and Engine Manufacturers Association (EMA) and on the Board of the North American Council for Freight Efficiency (NACFE).

Breakout Session- Track A (Sustainability)

Selecting and Reporting Meaningful Sustainability Metrics

Time: 12:30 p.m.-1:20 p.m.	**Speakers**: *Christina Wildt,* **Kermida** *Lorie Counsel,* **Cummins, Inc.**

Abstract: Stakeholders are increasingly demonstrating that they care about the sustainability performance of companies by where they choose to work, invest, and shop. In order to satisfy the demand for sustainability performance data, companies are beginning to publically disclose their sustainability metrics, justify their sustainability goals, and describe successful initiatives. Since there are no regulatory mandates which standardize the reporting protocol for sustainability metrics, reporting frameworks vary widely. The decision of what to report and how to convey the data falls to individual companies. This presentation will help the audience understand why reporting is important, what to report, and how to report it, based on unique characteristics of their company. Cummins' sustainability journey will be showcased, demonstrating the challenges and rewards that have come along through their reporting process.

Biography: Ms. Christina Wildt is a Sustainability Analyst who coordinates and assists with sustainability projects, focusing on energy management, as well as with GreenSTEP™ and ISO 14001, and grant writing. Christina has experience in strategic sustainability planning and reporting. She also works in the area of modeling landfill gas generation for energy production. Most recently, she was contracted by Dartmouth College to use greenhouse gas and financial modeling to reevaluate the school's energy system. Christina has a Bachelor's Degree in Economics from DePauw University and a Master of Science in Environmental Policy from Bard College.

Ms. Laurie Counsel is the Environmental Relations Director at Cummins, where she advances Cummins' environmental actions and brand through communication, engagement, marketing, and stakeholder reporting. She joined Cummins in 2003 and held investor relations and various communications roles before joining the Environmental Strategy & Compliance team. Among her varied environmental accomlishments at Cummins are editing the Cummins Sustainability Report, developing the Unplugged Challenge and June Environmental Month, and starting a mid-week parking lot Farmer's Market. Laurie is the President of Earth Day Indiana and on the board of People for Urban Progress. She has a B.A. in Journalism from the University of Georgia and a B.S. in Business Administration from Eckerd College.

U.S. EPA's Freely Downloaded Solvent Substitutions Software Tool PARIS II	
Time: 1:40 p.m.-2:30 p.m.	**Speaker**: *Paul Harten,* **U.S. EPA**
Abstract: PARIS III is a **P**rogram for **A**ssisting the **R**eplacement of **I**ndustrial **S**olvents software tool used to find mixtures of solvents that have physical and chemical properties very similar to current industrial solvents, but are significantly less harmful to the environment. By using common laptops and desktop workstations, extensive searches though the millions of combinations of solvent mixtures necessary can be completed. These searches may be refined and performed repeatedly by changing how close certain properties of the replacement solvents should be to those of the original solvent, and by adjusting how important different types of environmental impacts are. This software tool provides a very effective and user friendly way of finding greener replacements for harmful solvents used by industry; and may be implemented by environmental engineers, chemical engineers, and solvent experts everywhere.	
Biography: Dr. Paul Harten received his PhD in Physics from the University Cincinnati in 1987. He moved away from Cincinnati and spent many years in private industry learning and practicing the skills of High Performance Computing. He returned to Cincinnati and has been with EPA's Office of Research and Development at the National Risk Management Research Laboratory in the Sustainable Technology Division for the last 16 years. He has researched and developed in several areas of sustainability, and he has recently developed and released US EPA's freely downloaded pollution prevention solvent substitution software tool PARIS III.	

Practical Tips for Using ISO 14001:2015 as a Tool to integrate Environmental Compliance, Risk Management, and Sustainability Objectives.	
Time: 2:50 p.m.-3:40 p.m.	**Speaker**: *Karen Lutz,* **TRC Solutions**
Abstract: Emerging issues challenge EHS professionals to look beyond compliance to contribute to longer term business risk management and value creation. Looking at risk from a business perspective requires a systems approach focused on strategic, operational and reputational risks, in addition to regulatory risk. The ISO 14001 Environmental Management Systems (EMS) standard was revised in 2015 and reflects this changing role of the EHS professional. A summary of key sustainability concepts incorporated into the new standard will be reviewed, with emphasis on the value of using a systems approach to link a compliance foundation with the challenges and opportunities of a sustainable business. Practical tips for approaching new elements of the standard will be provided, as well as integration strategies with other management systems and business frameworks (e.g., health and safety, quality, energy management, Enterprise Risk Management, supply chain, product stewardship, stakeholder engagement, materiality assessments, sustainability reporting).	
Biography: Ms. Karen Lutz is an environmental and sustainability consultant with TRC Solutions, with over 25 years' experience. Located in Ann Arbor, Michigan, Karen's areas of expertise include sustainability advising, compliance assurance services, EHS management systems, and merger and acquisition support. She leads TRC's Sustainability Advisory services, where she engages with clients in the manufacturing and industrial sector and advises on strategy, systems and structures for their sustainability initiatives. Karen has developed EHS risk management /programs for clients and leads management system and sustainability strategy facilitation efforts with a focus on linking EHS initiatives to overall business objectives. She has also assisted clients with external sustainability reporting through the Global Reporting Initiative and Carbon Disclosure Project disclosure frameworks.	

Breakout Session- Track B (Success Stories)	
Massachusetts Toxic Use Reduction Program Success Stories	
Time: 12:30 p.m.-12:55 p.m.	**Speakers**: *Mark Myles,* **University of Massachussetts**
Abstract: This presentation will describe the Massachusetts Toxics Use Reduction Program and its framework for planning to reduce the use of toxics substances, reduce waste, conserve waste, and improve profitability. Two success stories from the program – one about a large company and another small one – will illustrate the financial and environmental value of the comprehensive TUR program approach.	
Biography: Mr. Mark Myles is the Education Program Manager at the Massachusetts Toxics Use Reduction Institute at UMass Lowell. As such, he is responsible for developing and administering various training programs related to pollution prevention and implementation of the MA Toxics Use Reduction Act (TURA). The most significant of these is the extensive program to train Massachusetts Toxics Use Reduction Planners – certified professionals working throughout industry to implement the provisions of TURA. He also manages industry-specific training to assist Massachusetts companies to understand and comply with global legislation related to toxics, as well as training for citizens, small businesses, community groups, and local officials interested in pollution prevention.	

How Industrial Water Conservation Can Produce Energy Savings	
Time: 12:55 p.m.-1:20 p.m.	**Speakers**: *Josh Rembusch,* **Danco**
Abstract: This presentation is designed to help an organization consider and effectively evaluate the potential impact of industrial water conservation and reuse program. We will review establishing a baseline, identifying the most impactful opportunities, a noninvasive prequalification process and share some patented and proven technologies that Fortune 500 companies are using to meet their water conservation and reuse goals. Water Conservation and reuse is one of many environmental impacts that are realized. Others include, hazardous chemical reduction, waste water reduction, energy conservation as well as enhanced asset protection. The presentation will walk through these impacts and how each is achieved in various applications.	
Biography: Mr. Josh Rembusch is the Director of Business Development at Danco. Josh earned undergraduate degree in Safety Management then completed a Master's degree in Business Administration from Indiana Wesleyan empowers. Josh understands how to "balance the big picture" when it comes to operation productivity, water conservation, waste minimization all with a focus on profitability. Josh years of experience managing and critiquing industrial based waste water processes and water conservation initiatives for a variety of industrial facilities within many different industries.	

Economy, Energy and the Environment (E3) Success Stories	
Time: 1:40 p.m.-2:30 p.m.	**Speaker**: *Kelly Weger,* **Purdue TAP**

Abstract: E3 Success Story #1 – Manufacturer of Wood Products

Several companies have found significant savings through this comprehensive program from Purdue MEP. Learn about a small furniture manufacturer who sought out assistance with significant results! The savings emerged partly from a 2 day analysis of the product flow, rearranging the plant into more efficient cells to reduce wait time, scrap, defects, and to increase efficiency. A 2 day W.A.S.T.E. Stream Mapping identified outside of the box opportunities to eliminate the purchase of 8,250 strips of cardboard annually by repurposing it elsewhere in their process. They also expect to reduce their carbon footprint by 15,890 tons of CO2eq, stemming mostly from redesigning their antiquated heating system. Weeks of training and assessments resulted in annual reoccurring savings of $209,000.

E3 Success Story #2 – Automotive Supplier

An automotive seal maker participated in Purdue's E3 Program, which included weeks of assessment and training in Lean Value Stream Mapping, W.A.S.T.E. Stream Mapping, Carbon Analysis, and an Energy Audit. The VSM assessment identified opportunities for a 40% reduction in process bottleneck, reduction in direct labor per part of $.13 each, and a 10% reduction in lead time. Despite some recent energy efficiency upgrades, there were still significant savings available. The largest savings came from some creative water projects after analyzing waste water and reverse osmosis systems on site. All total, the E3 Program resulted in annual reoccurring savings of $559,000.

Biography: Ms. Kelly Weger has more than 14 years in the building industry, with experience in commercial, governmental, and industrial projects. She has helped more than 100 industrial companies to ascertain energy related goals and opportunities, providing real-world results in a cost- effective manner. She has provided technical third-party reviews of facilities and operations for companies in plastics, metals, batteries, data centers, property management, and many others. Kelly has held positions as Project Architect, Energy Efficiency Program Manager, Renewable Energy Program Manager, Outreach Manager, and Sustainability Specialist. She is a Registered Architect in the State of Michigan and a LEED A.P.

Achieving Laboratory Sustainability Goals through Improved Safety Culture	
Time: 2:50 p.m.-3:15 p.m.	**Speaker**: *Prof. John Howarter,* **Purdue University**
Abstract: Laboratory operations often combine high risk and high resource investment due to the nature of research, development and discovery. As such, managing a research lab requires a diligence toward safety especially with regard to human health of the laboratory workers. This is especially true in a university setting, where the users are new every year and "seniority" rarely exceeds 4 years of experience for the student-users. In addition to securing a safe working space, the subsequent environmental impacts of lab activities are can easily get overlooked because of the variability in daily processes and a reliance on using familiar/reliable processes. However, in many cases, there are simple changes in policy, habit, or process that can both increase safety in the workplace and have a positive environmental outcome. A brief overview of associated risks and liabilities for research labs will be provided. Case studies from Purdue will be discussed that have incorporated principles of green chemistry and green engineering to improve sustainability goals of the research lab.	
Biography: Mr. John A. Howarter is an Assistant Professor in Materials Engineering at Purdue University with a joint appointment in Environmental & Ecological Engineering. His research interests are centered on synthesis, processing, and characterization of sustainable polymers and nanocomposites. His research impacts water treatment, thermal management in electronic devices, and material design for recycling and value recovery. At Purdue he has led or contributed to 20 environmental student design teams including two projects with a focus on sustainable laboratory practices. John earned a BS from The Ohio State University in 2003 and PhD from Purdue University in 2008, both in Materials Engineering.	

Less Controversial Alternatives to Mattress Waterproofing and Flame Safety	
Time: 3:15 p.m.-3:40 p.m.	**Speakers**: *Barry Cik,* **Naturepedic**
Abstract: Naturepedic offers mattresses that are made with alternative materials and designs compared to traditional chemical mattress waterproofing solutions and chemical flame retardants. To create products that are both effective and functional and that pass government and nongovernment industry standards, design must be flexible and creative. The proposed presentation will discuss the challenges faced by Naturepedic in designing fully waterproof crib mattresses without the use of PVCs or phthalates and in designing mattresses that meet government flammability standards without the need for chemical flame retardants. The presentation will discuss Naturepedic's design process, the setbacks and successes, and the overall strategies in problem solving in searching out and utilizing materials that not only promote human health but that are more benign from an environmental perspective.	
Biography: Mr. Barry A. Cik is the founder and Technical Director of Naturepedic. As a professionally trained environmental engineer, Barry combines his authentic passion for improving our quality of life with the technical knowledge to do so. His educational background in environmental engineering led Barry to chart his own successful entrepreneurial course for many years. When shopping for his first grandchild's crib mattress, he was horrified to discover firsthand the state of the baby mattress industry. From that moment Barry was inspired and determined to create mattress products not only in the best interest of his grandchild, but also for environmentally minded parents to use for their children. Working in tandem with his sons, Barry established Naturepedic in 2003.	

Breakout Session- Track C (Water)

Point-of-Use Drinking Water Treatment for Rural Communities in Developing Countries

Time: 12:30 p.m.-1:20 p.m.	**Speakers**: *Prof. Chad Jafvert*, **Purdue University**

Abstract: For the past five years, students at Purdue University have been designing drinking water treatment systems for use in rural areas of developing countries. Over 60 undergraduate students have participated through service learning courses sponsored by the Global Engineering Program at Purdue, with many of these students traveling to Colombia on four separate occasions. During these trips, the students have constructed and delivered point-of-use slow sand filters to 18 rural elementary schools in the Barbosa, Antioquia, Colombia area, with each of these schools having about 15 to 20 students. The filters produce water that meets the local drinking water quality standard of < 1.0 NTU for turbidity, and teachers have been instructed on final disinfection methods. In 2015, the project was expanded to Kenya, where the Global Engineering Program is now working with a local NGO to bring drinking water infrastructure to rural schools in western Kenya, with larger capacity slow sand filters constructed at 4 rural schools, with approximately 400 students at each school. Along the way, filters also have been constructed in western China, Eastern India, and Tanzania. During this presentation, design and implementation constraints will be discussed, as well as organizational and economic models for expanded implementation.

Biography: Mr. Chad Jafvert's primary research interests are the chemical and physicochemical fate processes of manmade substances in natural and engineered environments. He has published widely on the environmental fate of pesticides, flame retardants, hormones, and more recently, carbon based nanomaterials. He has worked on remediation strategies for contaminated sediments, and has published many papers on the photochemistry of pollutants in water. With Professor Howarter, he has been teaching a Global Engineering course at Purdue for the past 5 years through which undergraduate students have designed and delivered low cost drinking water treatment systems to rural areas in several developing countries.

Hot Topics in Wastewater Treatment

Time: 1:40 p.m.-2:30 p.m.	**Speaker**: *Jim Collins*, **Brenntag Mid-South, Inc.**

Abstract: This technical presentation will discuss actual plant situations that pertain to waste water treatment, as well as what caused an issue that lead to an effluent discharge violation and what the facility did to remedy the problem. In today's world it is very important that the production process communicate with the waste water treatment process and the importance of this will be emphasized during our discussion. Pollution prevention continues to be very important in the production process. We will also discuss techniques that can be used in order to make waste treatment more user-friendly.

Biography: Mr. Jim Collins has a Bachelor's degree from Indiana State University where he majored in marketing and received a minor in economics. Jim has 37 years of experience in the industrial chemical industry. His duties include start up and troubleshooting of any industrial process that involves a chemical feed program. Once the process is up and running, he goes back in and makes the process run efficiently, trouble free, and at a minimal cost to the customer. Jim is also currently the President of Indiana Industrial Operators Association, a Registered Industrial Waste Water Professional in Indiana, a Certified Electro Finisher, and he is on the Board of Directors of the Indianapolis Branch of the National Association of Surface Finishers.

Biological Removal of Oils and Grease	
Time: 2:50 p.m.-3:40 p.m.	**Speaker**: *Pat Beamon*, **Archaea Solutions, Inc.**

Abstract:

- Bacteria Survival Requirements
- Cleaners and Soaps
- pH Requirements
- ORP
- Up Stream Processes

Biography: Mr. Pat Beamon specializes in wastewater process enhancement, design and installs medium and fine bubble aeration systems. Pat has an Indiana Class IV; D License, and a Kentucky Class III License. He evaluates and implements municipal and industrial process changes and also teaches classes for the Mississippi Rural Water Association, Louisiana Rural Water Association, Arkansas Rural Water Association and the Water Environment Association of Texas. He has taught classes at Ivy Tech – Evansville from 1990 to 1997. Pat's family includes his wife of 17 years (Diane), two sons (Zachary and Nicholas) and they have dog named Beauregard. Pat enjoys fishing with sons, eating crawfish in Louisiana, and skeet shooting.